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BIRD LIFE OF A TRANSIENT LAKE IN KENTUCKY

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Bowling Green, Kentucky, though on Barren River, has few water and wading birds regularly. A depression in southern Warren County, some ten miles from Bowling Green, filled with water during the long-continued rainy season from August, 1926, to July, 1927, and formed a lake 300 acres in extent, which lasted until the middle of July, 1927. To this wet-weather lake came hosts of water and wading birds, Mallards, Canvas-backs, Coots, Lesser Yellowlegs, and Solitary Sandpipers being most numerous. During many years of bird study in this region I have found only twenty-seven species of these families; while during the months from February to July, 1927, I found thirty-two species on this lake alone. The following species were recorded for the first time in my territory: Caspian Tern, Semipalmated Plover, Green-winged Teal, Black Duck, Pintail, and Black Tern.

Species that remained until the lake dried up and probably or certainly nested and not otherwise reported from this section of the state were, Black Tern, Mallard, Blue-winged Teal, King Rail, Coot,

Least Sandpiper, Lesser Yellow-legs, and, among birds that frequent marshes, the Pipit. Many common land birds occurred in large numbers around the lake in the migration season and even in the summer.

Though I live within a mile of Barren River and four miles of Drake's Creek and spend most of my spare time on or along these two streams, I have had few opportunities to study water and wading birds. These streams flow through limestone and pebbly country and have almost no muddy areas or marshes. During twelve years of bird study here I recorded only twenty-eight species of water and wading birds. Along the streams there are a few nesting Wood Ducks (*Aix sponsa*), a good number of Green Herons (*Butorides virescens*), a few Spotted Sandpipers (*Actitis macularia*), and very rarely a pair of Pied-billed Grebes (*Podilymbus podiceps*). The Killdeer (*Oxyechus vociferus*) is plentiful in summer and is to be found in small numbers even in the hardest winters. The Great Blue Heron (*Ardea herodias*) was formerly a fairly common summer resident, but only on two occasions have I found immature birds here in the summer. I have never found the nest of this species and can list it as a summer resident only because I have found young that were still too immature to fly well.

With this as a background, it will be readily understood why the changes in bird life due to this temporary natural lake are of interest. Practically all my bird study for the first seven months of 1927 has been devoted to the McElroy Farm, particularly to the large wet-weather lake there. This farm lies on both sides of the Trinity Pike, ten miles south of Bowling Green, and just beyond the village of Rich Pond. All the surrounding country is underlaid with cavernous limestone, there being no surface drainage ordinarily. When the grandfather of Mr. C. U. McElroy, attorney of Bowling Green and present owner, acquired this 600-acre farm in 1811, nearly all of it was prairie, or a "barren," as it was known locally. In the flat area behind the barns there was then a small permanent pond of an acre or so. Around this pond was a grove, some of which is still standing, the roosting place for decades of Passenger Pigeons (*Ectopistes migratorius*) and the haunt of Wild Turkeys (*Meleagris gallopavo silvestris*). Where the road now runs there was a sort of pontoon bridge, which rose and fell with the wet season.

In a field on the south side of the pike, on property belonging to Mr. B. M. Wilson, there are numerous holes in the ground from which water flows in wet weather but which are ordinarily dry. In

periods of great rain, the underground streams seem to get stopped up. The water comes out at these holes, flows under the bridge and into the broad, flat field behind the house and barns. A ditch, dug in recent years, takes care of the water in ordinary rains, but long-continued seasons of rains cause the water to spread over the field. At the lower end of the depression are numerous sinkholes, the natural outlets of this pond. From the source, in Mr. Wilson's field, to the farthest outlet sinks is a little more than a mile; the area of the lake at its highest is approximately 300 acres. In ordinary years this flat area is dry enough to be cultivated in corn and is the most fertile field in this county. For seventy-five years it has produced a corn crop, with no sign of diminishing fertility.

Nearly every year since the farm was settled there has been an overflow, though usually it has come at such a time as not to interfere with crops. The greatest previous overflow was in 1884, when it covered the road east and north of the house. These overflows have also come at times when most birds were gone south in the fall or before any great migration in the spring. Besides, the water is perfectly clear and in ordinary years offers no food, as the corn and other grain have been harvested. Occasionally enough water is left in the spring to form a sort of stopping place for flocks of migrating ducks, but they must find very "poor picking." On two occasions I have found thousands of ducks on the water for a short time, e. g., April 8, 1912, and April 11, 1922. Very soon afterwards the water was gone, in plenty of time for putting in the regular corn crops.

Beginning in August, 1926, there was almost continuous rain until the early days of July, 1927. Some of the earliest rains drowned out some of the corn of this area. Only once did the water disappear in the fall and that for only a few days. It was impossible for the managers of the farm, Messrs. J. W. and Cecil Travelstead, to gather some thousand bushels of the corn in the lowest area. There was also a small acreage of sorghum which was lost after it had been cut and shocked. As the rains continued, the water became deeper and deeper, rising above the tassels of the corn in much of the area and becoming as much as fifteen feet deep in the ravines and lowest places.

I regret to say that I did not realize the significance of the lake this year until after Christmas, 1926. It was then I learned that much of the corn could not be gathered. From then on until the lake disappeared, in mid-July, I visited the place as frequently as my work and the bad weather would allow. My early trips to the lake

were not rewarded with anything unusual, for I always came at the wrong time to see the seventy-five Canada Geese (*Branta canadensis*) that wintered on the lake. During the day they fed in the extensive fields of barley and wheat, returning to the lake to roost. My real experiences began March 12, after which every trip brought surprises at every turn of the eye.

The diagram* of the farm was made by Miss Ruth L. Cox, director of art in the public schools of Madisonville, Kentucky, who took an unusual interest in my studies during her teaching in the 1927 summer school of the Western Kentucky Teachers' College, Bowling Green.

PIED-BILLED GREBE. *Podilymbus podiceps*. The "Die-dapper," as it is called locally, breeds here in very small numbers and is slightly more numerous in migrations. On the lake from early April until the end of June there were literally dozens of grebes. At any time in the day could be heard a few "kowing"; at sunset the sound of these birds and others was almost deafening. On June 22 I found five nests, with eggs as follows: 9, 6, 2, 0, and 7. The nests had been built of cornstalks and weeds when the lake was temporarily low in the middle of April. Heavy rains had raised the water again and had caused the birds to desert the nests. Every nest seemed to have been covered with six or eight inches of water. The eggs had been incubated only two or three days, it seemed. On July 9 I found two more nests of this species, both of which had been robbed of their eggs.

HERRING GULL. *Larus argentatus*. On May 8 I saw three flying low over the central part of the lake. In ordinary seasons I see one or two during each migration season.

CASPIAN TERN. *Sterna caspia*. On April 30 four flew over the lake and the adjoining fields for a whole afternoon, uttering their harsh cries. Several times I studied them with glasses in the brilliant sunlight only a few yards away.

BLACK TERN. *Chlidonias nigra surinamensis*. On June 19 I saw seven at close range and six on June 22. On the latter date Professor L. Y. Lancaster, who accompanied me, found on the bank of the ravine an egg of this species. There was no nest near. I could not detect any difference in the color of the birds seen, but some of them gave the whining sound that I have noticed is characteristic of the

*The Editor is compelled to omit the diagram because of lack of space.

young of the Common Tern (*Sterna hirundo*) on Reelfoot Lake, in western Tennessee. I have never recorded this species here before, though I have often seen it, in company with the Common Tern, on the Ohio and Mississippi Rivers in this state.

DOUBLE-CRESTED CORMORANT. *Phalacrocorax auritus*. I saw three the whole afternoon of May 2, the first record I have for this species here, though I have seen hundreds on Reelfoot Lake, where they are known by the fishermen and hunters by the rather picturesque name of "Nigger Geese."

MERGANSER. *Mergus americanus*. They were seen in large numbers on the lake from March 20 to May 8. I find a few in my territory every year but never in such numbers as frequented the lake this year.

MALLARD. *Anas platyrhynchos*. On the lake they constituted the first great hordes, up until the end of April. On July 9 I flushed in low grass in the area near the source of the lake a female Mallard and ten young. The female made frantic efforts to decoy me. Two days later some workmen on the farm flushed the same female, apparently, and secured four of the young. Ordinarily I count myself fortunate if I see a dozen Mallards in a single day, even in migrations. On a single day at the lake I could have easily seen 500.

BLACK DUCK. *Anas rubripes*. Plentiful at the same time that the Mallards were so numerous, especially in March. I found more Black Ducks on the similar lake on the Chaney Farm, about a mile and a half away and apparently a part of the same underground river system.

GREEN-WINGED TEAL. *Nettion carolinense*. It was seen rarely in April. I had much better views of this species on Davis's Marsh, a small permanent pond of similar formation, some five miles nearer Bowling Green.

BLUE-WINGED TEAL. *Querquedula discors*. Very plentiful in March and April. On June 22 I flushed a female from a nest containing six eggs. She made no attempt to fly but could swim perfectly. She circled around me within easy reach of her nest for the half hour that I watched her. The female duck that I found on July 9 and that could not fly might have been this same one. At that time the duck concealed herself in weeds too soon for me to identify her for sure.

AMERICAN PINTAIL. *Dafila acuta tzitzihoa*. Many that were supposed to be of this species were seen on several occasions, but I identified them positively only on May 8.

WOOD DUCK. *Aix sponsa*. For some reason I failed to see this species while the water was high but found a few, both males and females, on June 22 and July 9.

CANVAS-BACK. *Marila valisineria*. After the hordes of Mallards left, the Canvas-backs took their places. Because of their brightness of color these birds were the most conspicuous on the lake. Throughout the month of April and the first half of May I saw thousands. The last two or three weeks of this time the Canvas-backs were mated. I explored the woods at the edge of the water for nests but in vain.

RUDDY DUCK. *Erismatura jamaicensis*. I failed to identify positively this species on the lake proper but found a few on a neighboring small pond. I have never seen this species in large flocks.

CANADA GOOSE. *Branta canadensis*. The seventy-five that wintered on the lake left early for the north, but a single one stayed on until the water was getting low, when it flew to a large lot adjoining the barnyard proper and joined some others of its kind that have been in captivity for several years. For weeks it would rise and fly daily and attempt to induce the flock to follow. They could not fly because of cropped wings and were soon joined again by their more fortunate relative. Several farmers around Bowling Green have captured Canada Geese and keep them by cropping their wings, but only rarely have they been successful in getting them mated. Mr. H. C. Morris, of near Woodburn, three miles beyond the McElroy Farm, has reared a few Canada Geese in captivity, but none have ever been reared on the McElroy Farm itself.

BITTERN. *Botaurus lentiginosus*. Heard booming in the woods beyond the lake every trip to the lake in April and May, sometimes in large numbers. I was never able to see the birds themselves, though I have seen them in my territory and elsewhere in the state.

LITTLE BLUE HERON. *Florida caerulea*. Not seen on the lake while it was large but seen at that time on Davis's Marsh. I saw two Little Blue Herons on the small remnant of the lake July 9. Every fall I find a few on the river in their fall plumage of white; on September 13, 1924, I saw ten at one time on Barren River.

GREAT BLUE HERON. *Ardea herodias*. This species probably nests in small numbers along our rivers, for I see occasionally an immature bird that is hardly old enough to fly. On the lake I saw one occasionally in April. On June 22 I saw six adults feeding in the shallow water between the woods and the ravine.

GREEN HERON. *Butorides virescens*. A fairly common summer resident here. Very abundant on the lake after April 27. A great many of those I saw in June and July were immature. At one time on July 9 I counted twelve on the wing over the small remaining lake.

KING RAIL. *Rallus elegans*. It was seen during the spring migrations of 1926 and 1927 on Davis's Marsh but not found at the lake until July 9, when I found a pair in the part of the lake on Mr. Wilson's farm. A local hunter and bird student found the nest of this species some years ago on Davis's Marsh.

SORA. *Porzana carolina*. This species has increased greatly in my territory within the last three years. I saw from two to ten during each trip to the lake in April but did not see any after May 2. At sunset I often heard this little rail calling in its strange, weird way, a sound that has always reminded me of the shriek of a frightened woman.

COOT. *Fulica americana*. The Coot is ordinarily a rare bird here, though I record a few each spring. All my records for twenty years might be multiplied by a hundred without touching the number I have seen this season. From April 4 until May 8 the lake was fairly black with them, at the same time that so many Canvas-backs were there in other areas. On June 22 I found four nests of almost fresh eggs, all of which had been plundered by Crows. The most impressive thing I remember about the Coots is their "taking off" in flight, propelling themselves with both wings and feet until above the reach of the water. I have seen fully five hundred in flight, making a noise like the rushing sound of a storm.

WILSON'S SNIBE. *Gallinago delicata*. For some reason the Snipe was never very common, though I saw as high as ten, two or three times. I recorded the species for every trip during April but not before or after. I have several times seen more Snipe in other parts of my territory.

PECTORAL SANDPIPER. *Pisobia maculata*. Fairly common some years in my territory but not seen sometimes for three or four years at a time. From April 16 to May I saw a great many of this species. On April 30, at sunset, I saw twenty or thirty flocks of fifty to a hundred each coming to the main lake from the extension on the Wilson farm. On numerous occasions I studied this species with binoculars.

LEAST SANDPIPER. *Pisobia minutilla*. Fairly common in April and May; almost abundant on May 2. I was greatly surprised to find

two adults at the lake June 22. They seemed to be perfectly normal, for they flew as usual, walked as usual, and uttered their pleasing little note.

SEMIPALMATED SANDPIPER. *Ereunetes pusillus*. I saw this species definitely on only one occasion, May 8, when I studied at close range a flock of this species, the Least, the Pectoral, the Solitary, the Lesser Yellow-legs, and the Semipalmated Plover, none of this strange flock being over a hundred feet away and very fearless.

GREATER YELLOWLEGS. *Totanus melanoleucus*. From April 4 to May 2 they were almost abundant, nearly always found in company with the Lesser and related species.

LESSER YELLOWLEGS. *Totanus flavipes*. Very abundant, especially throughout April and May. I saw one on June 18 and three on June 22, all perfectly normal in appearance.

SOLITARY SANDPIPER. *Helodromas solitarius*. The Solitary is always common here in the spring and in the fall, but during April and May I saw more at the lake than I commonly see in my whole territory in five years.

SPOTTED SANDPIPER. *Actitis macularia*. This species regularly nests along our creeks and rivers. I saw it several times on the lake but never in large numbers such as those of the Solitary and the Lesser Yellowlegs.

KILLDEER. *Oxyechus vociferus*. Though a very common resident here, the Killdeer outdid itself on the lake this year. There were times when there were so many Killdeer in the air over the adjoining fields that their complaining notes were almost deafening. Evidently they bred in large numbers around the lake, for the numbers were quite as large in midsummer as during the spring migration.

SEMIPALMATED PLOVER. *Aegialitis semipalmata*. Five or six of these little waders were seen at very close range on April 30, an equal number on May 2, and a host on May 8. I had a fine opportunity to compare and contrast them with the Killdeer and several other members of the family.

OSPREY. *Pandion haliaetus carolinensis*. On April 16 I studied this species at close range for an hour or more. On April 24 and 27 I saw two billing and expected to find a nest but was never able to see more than one bird after that. May 2 was the last record of this species, which has never been recorded here before by me.

RED-WINGED BLACKBIRD. *Agelaius phoeniceus*. The woods at the south end of the lake served as a roosting place for thousands of red-wings during the migration season. Though this species is common here in summer, I was unable to find any nests in this very favorable place.

BRONZED GRACKLE. *Quiscalus quiscula aeneus*. If possible, the Bronzed Grackles outnumbered the red-wings during the migration season and remained plentiful on through the summer. This species is one of our commonest summer residents.

SAVANNAH SPARROW. *Passerculus sandwichensis savanna*. This migrant, usually rare, was quite common at the edges of the lake in late April and early May.

HENSLow'S SPARROW. *Passerherbulus henslowi*. I found a few of these migrants around the lake, but no more than I usually find in the spring migration.

PIPIT. *Anthus rubescens*. This bird, quite common as a migrant, is recorded nearly every season in several parts of my territory, but I have always thought of it as a migrant. In June and July I found small flocks of Pipits in the fields where the water had gone down; I suppose that they had nested here.

Many other species of land birds were seen around the lake, but their numbers were in every way normal. In July, even, I saw fully a thousand Mourning Doves (*Zenaidura macroura carolinensis*) in the sorghum fields. Barn Swallows (*Hirundo erythrogastra*) nested in great numbers in the largest barn and were always to be seen over the lake and the fields. Down by the little bridge I could nearly always hear the lively song of the Louisiana Water-Thrush (*Seiurus motacilla*), a fairly common summer resident here. Every trip to the lake brought a good record of species. May 8 was the best of all, for I recorded fifty-seven species in a single afternoon.

I take this means of thanking Mr. McElroy, the owner, and the Messrs. Travelstead, the managers, of the farm for their kindness to me in my study. They put at my disposal their boats when the water was high; they gave me minute directions as to how to find certain things and places; and they told me all the general facts about the lake before my acquaintance with it.

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